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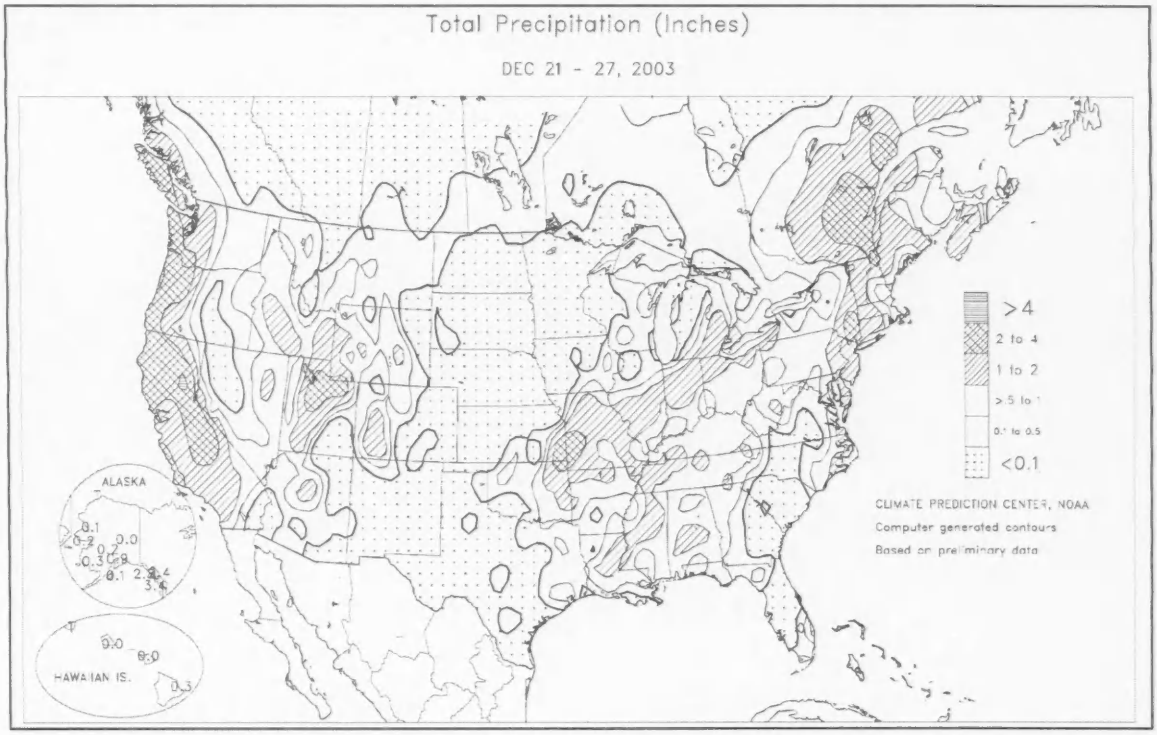
WEEKLY WEATHER AND CROP BULLETIN

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Weather Service

U.S. DEPARTMENT OF AGRICULTURE
National Agricultural Statistics Service
and World Agricultural Outlook Board



HIGHLIGHTS

December 21 - 27, 2003

Highlights provided by USDA/WAOB

One of the most impressive **Western** winter storms of the season struck the **Intermountain region**, providing limited drought relief in the form of high-elevation snowfall. However, heavy precipitation also overspread **southern California**, where mud slides caused locally extensive damage. Farther east, generally light snow blanketed winter wheat areas on the **northern Plains**, but mostly dry weather and record warmth on the **central and southern Plains** left wheat exposed to potential weather extremes. The **Plains'** weekly temperatures ranged from 6 to 20°F above normal. Dry, unusually mild weather also prevailed across the **upper Midwest**, where

(Continued on page 5)

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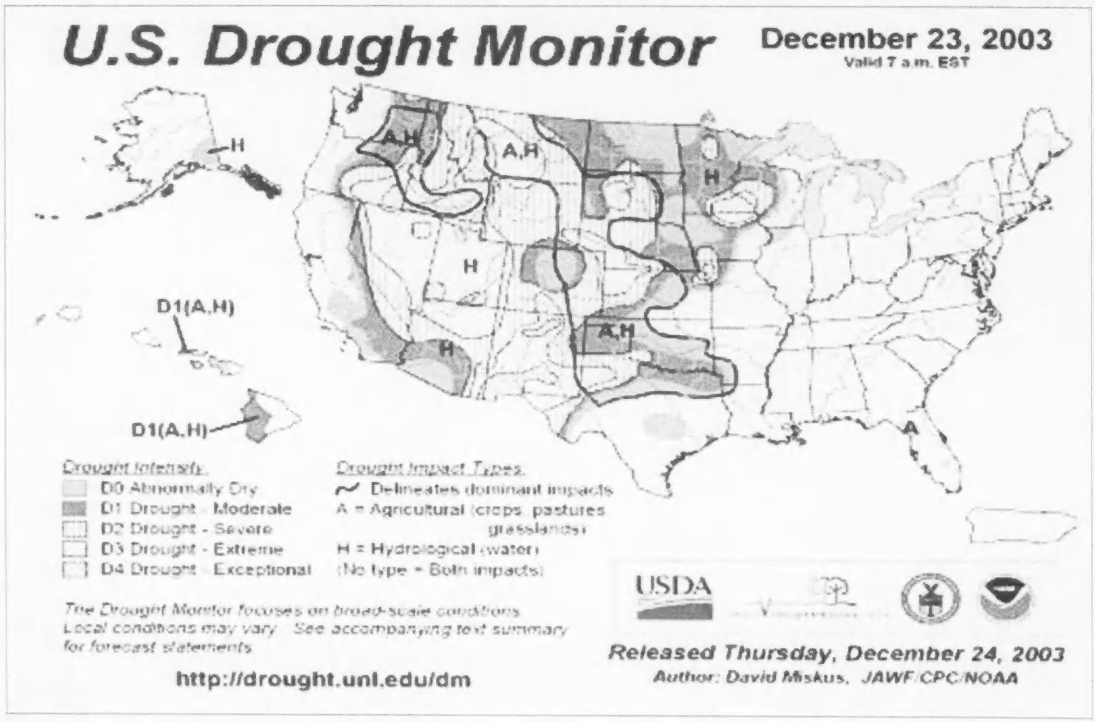

U.S. Drought Monitor
December 23, 2003
Valid 7 a.m. EST
D1(A,H)
D1(A,H)
Drought Intensity:
D0 Abnormally Dry
D1 Drought - Moderate
D2 Drought - Severe
D3 Drought - Extreme
D4 Drought - Exceptional
Drought Impact Types:
Delineates dominant impacts
A = Agricultural (crops, pastures, grasslands)
H = Hydrological (water)
(No type = Both impacts)
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.
http://drought.unl.edu/dm
USDA
Released Thursday, December 24, 2003
Author: David Miskus, JAWF/CPC/NOAA

U. S. Seasonal Drought Outlook
Through March 2004
Released December 18, 2003
Improvement Expected
Some Improvement
PERSIST
PERSIST
IMPROVEMENT
KEY:
Drought to persist or intensify
Drought ongoing, some improvement
Drought likely to improve, impacts ease
Drought development likely
Depicts general, large-scale trends based on subjectively derived probabilities guided by numerous indicators, including short and long-range statistical and dynamical forecasts. Short-term events -- such as individual storms -- cannot be accurately forecast more than a few days in advance, so use caution if using this outlook for applications -- such as crops -- that can be affected by such events. "Ongoing" drought areas are schematically approximated from the Drought Monitor (D1 to D4). For weekly drought updates, see the latest Drought Monitor map and text.

Weather Data for Mississippi and the Missouri Bootheel

Weather Data for the Week Ending December 27, 2003

Data provided by the Mississippi State Delta Research and Extension Center (DREC), the Southern Regional Climate Center (SRCC), and the University of Missouri.

STATES AND STATIONS		TEMPERATURE °F						PRECIPITATION							4-INCH SOIL TEMP, °F		NUMBER OF DAYS			
																	TEMP. °F		PRECIP	
		AVERAGE MAXIMUM	AVERAGE MINIMUM	EXTREME HIGH	EXTREME LOW	AVERAGE	DEPARTURE FROM NORMAL	WEEKLY TOTAL, IN.	DEPARTURE FROM NORMAL	GREATEST IN 24-HOUR, IN.	TOTAL, IN., SINCE Dec 1	PCT. NORMAL SINCE Dec 1	TOTAL, IN., SINCE Jan 1	PCT. NORMAL SINCE Jan 1	AVERAGE MAXIMUM	AVERAGE MINIMUM	90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE
MS	INDIANOLA 1S	56	34	68	27	45	-	0.24	-	0.16	1.49	-	42.87	-	-	-	0	3	2	0
	INVERNESS 5E	57	35	69	27	46	-	0.27	-	0.24	1.21	-	39.75	-	52	41	0	3	2	0
	LYON	57	33	68	27	45	-	0.53	-	0.45	1.55	-	46.05	-	49	42	0	4	2	0
	MACON	56	32	65	28	44	-	0.67	-	0.67	2.28	-	56.06	-	50	42	0	5	1	1
	ONWARD	60	34	72	28	47	-	1.06	-	1.05	1.96	-	-	-	52	45	0	3	2	1
	PERTHSHIRE	55	32	67	25	44	-	0.66	-	0.57	1.92	-	46.64	-	47	41	0	4	2	1
	SCOTT	56	35	68	28	46	-	0.40	-	0.28	2.23	-	-	-	-	-	0	2	2	0
	SIDON	59	36	69	28	48	-	0.58	-	0.56	1.66	-	40.09	-	52	40	0	2	2	1
	STARKVILLE	55	29	65	25	42	-1	0.61	-0.58	0.61	1.88	42	57.02	104	48	41	0	5	1	1
	TUNICA 1W	56	31	67	23	44	-	0.48	-	0.47	1.80	-	-	-	46	40	0	5	2	0
	VANCE	55	32	66	25	43	-	0.54	-	0.46	1.80	-	-	-	-	-	0	4	2	0
	VERONA	55	30	64	24	42	-	0.68	-	0.68	2.12	-	54.38	-	49	38	0	5	1	1
	STONEVILLE [x]	56	33	70	27	45	1	0.15	-1.04	0.15	1.52	32	43.40	83	52	41	0	4	1	0
MO	DELTA	49	29	56	19	38	5	0.46	-0.77	0.31	1.08	28	42.75	92	41	35	0	5	2	0
	STEELE	53	33	63	27	42	7	0.74	-0.34	0.74	1.73	38	51.36	103	44	38	0	4	1	1
	GLENNONVILLE	51	32	59	23	41	5	0.74	-0.31	0.43	1.53	43	35.46	81	43	37	0	4	2	0
	PORTAGEVILLE LF	53	33	61	25	42	8	0.47	-0.66	0.47	1.34	34	47.65	100	46	37	0	3	1	0
	CLARKTON	51	30	59	23	41	6	0.91	-0.14	0.80	1.67	47	42.66	97	44	38	0	5	2	1
	CARDWELL	53	31	62	23	42	7	0.83	-0.35	0.83	1.70	40	51.59	104	46	40	0	5	1	1
	CHARLESTON	51	30	59	21	40	7	0.69	-0.23	0.65	1.46	36	43.81	91	44	37	0	5	2	1
	PORTAGEVILLE DC	52	32	61	24	42	7	0.24	-0.89	0.21	1.06	27	44.61	94	-	-	0	4	2	0

Compiled by USDA/OCE/WAOB's Stoneville Field Office.
[x] Based on 1971-2000 normals.
- Sufficient data not available.

Weather and Crop Summary: A cold front provided the week's only precipitation early in the period. Above-normal temperatures prevailed prior to the front's passage and again later in the week, with Delta highs approaching or reaching 70°F. By week's end, soils dried to pre-frontal moisture content. Winter wheat and pastures, aided by early-week rains, continued to grow as expected.

Selected Year-to-Date Precipitation Highlights

Updated through December 28, 2003

Record-High Annual Precipitation (Inches)

Location	Total	Normal	Previous Record/Year
Dulles Airport (IAD), VA	65.68	41.80	59.05 in 1972
Bristol (TRI), TN	65.38	41.33	54.50 in 1950
Baltimore (BWI), MD	62.56	41.94	62.35 in 1889
Greensboro (GSO), NC	62.16	43.14	57.95 in 1901
Charleston (CRW), WV	60.67	44.05	60.40 in 1950

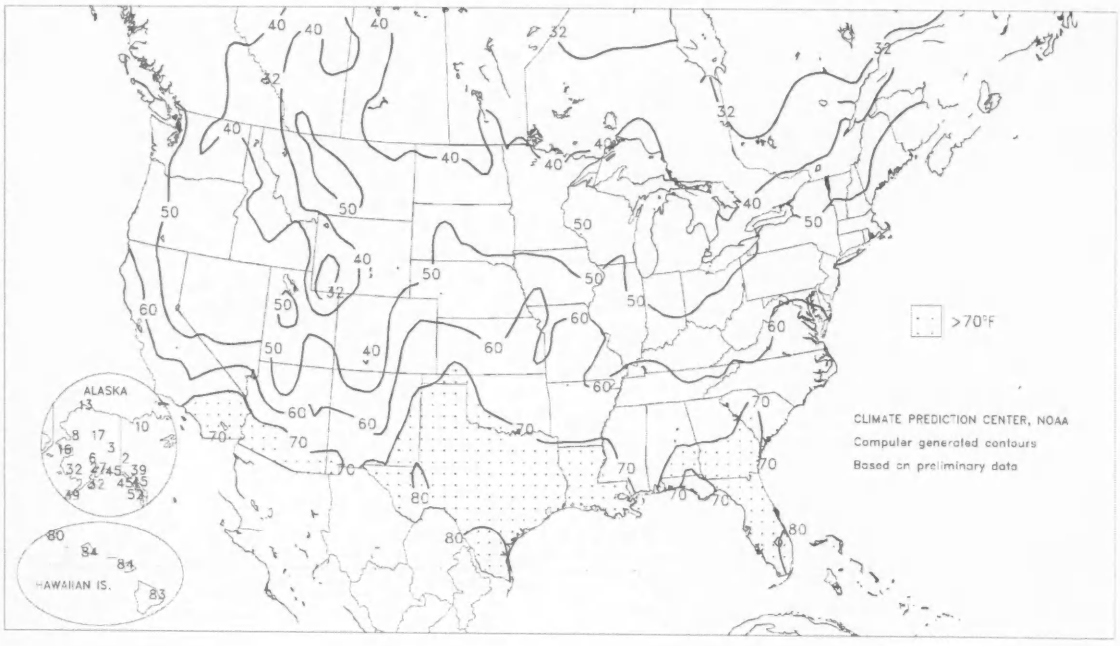
Lubbock, Texas: Driest Years on Record *

Rank	Total	Year
1.	8.73	1917
2.	**8.83**	**2003**
3.	9.45	1924
4.	9.59	1927
5.	9.72	1934

(* Lubbock's 1971-2000 normal annual precipitation is 18.69 inches.)

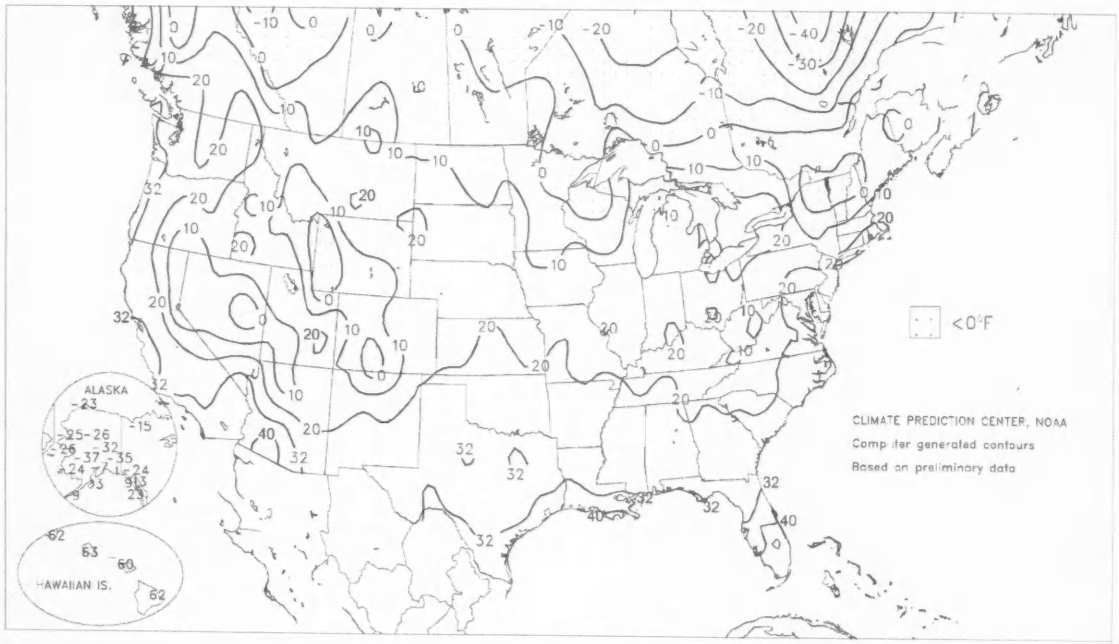
Extreme Maximum Temperature (°F)

DEC 21 - 27, 2003



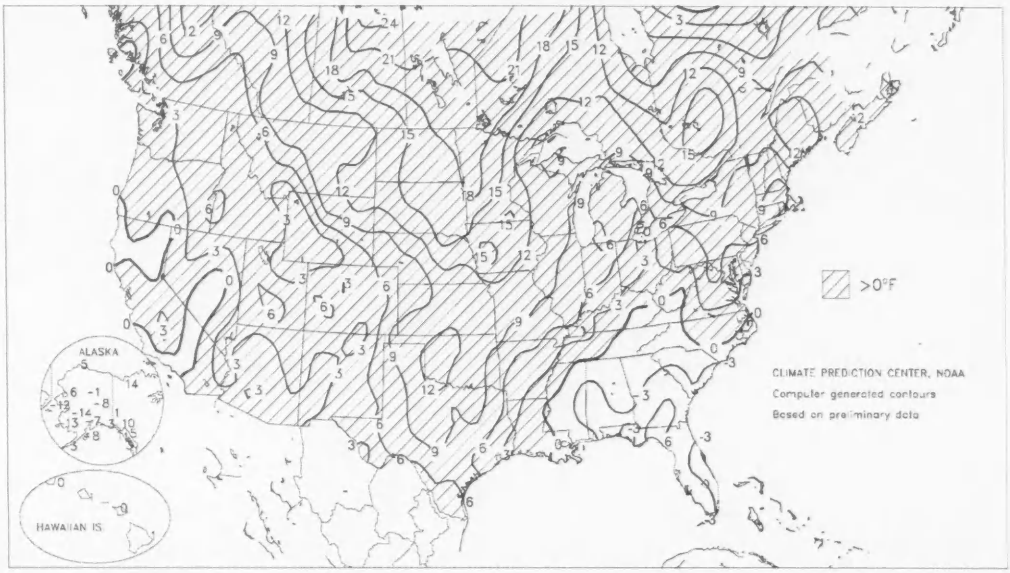
Extreme Minimum Temperature (°F)

DEC 21 - 27, 2003



Departure of Average Temperature from Normal (°F)

DEC 21 - 27, 2003



(Continued from front cover)

readings ranged from 8 to 18°F above normal. Meanwhile, early- to midweek rain and snow showers maintained adequate to locally excessive soil moisture reserves in winter wheat areas across the **southern and eastern Corn Belt**. The same storm system responsible for the **Midwestern** precipitation intensified across the **Northeast**, producing another round of heavy rain and snow. For much of the week, cool weather was confined to the **Southeast**, where temperatures averaged as much as 6°F below normal. Although scattered showers ended across the **South** by midweek, conditions remained mostly favorable for winter grains and cool-season pastures.

Most of the **East** reported rain on December 24-25, but some heavy snow fell across the **interior Northeast**. In addition, snow showers lingered for much of the week downwind of the **Great Lakes**. Rainfall on Christmas Eve was sufficient to set annual precipitation records in **Baltimore, MD** (62.56 inches), and **Charleston, WV** (60.67 inches), eclipsing standards set in 1889 and 1950, respectively. Farther north, **Burlington, VT**, received 4.0 inches of snow on December 25-26, boosting its monthly total to 53.6 inches and leaving only December 1970 (56.7 inches) as a snowier month in the city's history. Much heavier snows were reported at higher elevations in **Vermont** (and elsewhere in the **interior Northeast**), including 16.0 inches on **Jay Peak**. Warmth briefly overspread **New England** in advance of the storm system, resulting in consecutive daily-record highs (52 and 51°F) on December 24-25 in **Bangor, ME.**

Prior to last week, most of the **Western** storminess was confined to **northern California** and the **Northwest**. However, the week opened on a wet note in parts of the **Intermountain West**, where **Salt Lake City, UT** (0.74 inch, or 4.3 inches of snow), netted a daily-record total for December 21. A stronger storm arrived at midweek, resulting in December 25-28 precipitation in **Salt Lake City** totaling 2.31 inches (19.4 inches of snow). At the height of the storm on December 25-26, 24-hour snowfall reached 37.5 inches in **Alta, UT.** Storm-total snowfall reached 58.0 inches in **Alta**, while elsewhere in **Utah**, snowfall included 63.0 inches in **Farmington Canyon** and 71.5 inches at **Snowbird**. Farther north, **Pocatello, ID**, received 13.0 inches of snow on December 26, breaking its single-day December snowfall record of 12.0 inches, set in 1919. Heavy snow also blanketed parts of **western and central Montana**, including 20 inches in **Lewistown**. Meanwhile, heavy rainfall pelted **southern California**. During a 30-hour period ending on the evening of December 25, rainfall totaled 4 to 8 inches, with locally higher totals, at a few mountain locations in **southern California**, including **Lytle Creek** (8.57 inches), **Manzanita Flats** (8.03 inches), and **Mt. Baldy** (6.14 inches).

Farther east, cold weather lingered early in the week in the **Atlantic Coast States**. On December 21, **Gainesville, FL**, posted a daily-record low of 22°F. In contrast, periodic warmth on the **central and southern Plains** set several daily-record highs. **Amarillo, TX** (77°F), notched a daily-record high on December 21, followed by another round of records on Friday. Record highs on December 26 included 74°F in **Abilene, TX**, and 69°F in **Garden City, KS.** At week's end, some of the record warmth overspread the **Midwest**, where records for December 27 included 50°F in **Madison, WI**, and 40°F in **Duluth, MN.** At the same time, the coldest weather of the season overspread **southern California** and the **Southwest**. By Sunday morning, December 28, **Phoenix, AZ** (32°F), recorded its first freeze since January 3, 2000, when the low was also 32°F.

Very cold weather returned to **Alaska**, especially across **southern and western portions of the State**, holding weekly temperatures as much as 14°F below normal. Some additional snow fell, mostly across the **southern half of Alaska**. December 22-28 snowfall included 9.9 inches in **Anchorage** and 27.3 inches in **Valdez**, boosting the stations' respective month-to-date totals to 36.4 and 84.6 inches. Last year, December 1-28 snowfall totaled 20.7 inches in **Anchorage** and 22.7 inches in **Valdez**. By December 28, however, precipitation and mild weather overspread **western Alaska**, resulting in a daily-record snowfall of 5.5 inches in **Nome** and a high of 44°F (not a daily record) in **King Salmon**. Meanwhile, locally heavy rainfall associated with a developing "kona low" swept across **Hawaii** late in the week, ending a period of about 10 days with only light, scattered showers. On December 27-28, 24-hour totals included 3.20 inches in **Hana, Maui**, and 2.18 inches in **Kokee, Kauai**.

National Weather Data for Selected Cities

Weather Data for the Week Ending December 27, 2003

Data Provided by Climate Prediction Center (301-763-8000, Ext. 7503)

STATES AND STATIONS		TEMPERATURE °F						PRECIPITATION							RELATIVE HUMIDITY, PERCENT		NUMBER OF DAYS			
																	TEMP. °F		PRECIP	
		AVERAGE MAXIMUM	AVERAGE MINIMUM	EXTREME HIGH	EXTREME LOW	AVERAGE	DEPARTURE FROM NORMAL	WEEKLY TOTAL, IN.	DEPARTURE FROM NORMAL	GREATEST IN 24-HOUR, IN.	TOTAL, IN. SINCE Dec 1	PCT. NORMAL SINCE Dec 1	TOTAL, IN. SINCE Jan 1	PCT. NORMAL SINCE Jan 1	AVERAGE MAXIMUM	AVERAGE MINIMUM	90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE
AL	BIRMINGHAM	56	31	64	23	43	-1	0.48	-0.52	0.47	2.07	56	64.35	121	89	41	0	5	2	0
	HUNTSVILLE	52	28	62	22	40	-1	0.39	-0.83	0.39	2.48	51	55.05	97	84	53	0	5	1	0
	MOBILE	62	37	70	31	50	-1	0.68	-0.31	0.68	2.60	65	70.30	107	78	51	0	2	1	1
	MONTGOMERY	59	28	70	22	44	-3	0.98	-0.06	0.98	3.30	76	50.15	93	97	46	0	6	1	1
AK	ANCHORAGE	16	4	27	-7	10	-7	0.85	0.63	0.44	1.81	206	16.38	103	91	82	0	7	3	0
	BARROW	-1	-13	13	-23	-7	5	0.03	0.03	0.02	0.07	700	5.80	144	84	78	0	7	2	0
	FAIRBANKS	-9	-22	3	-32	-15	-8	0.00	-0.17	0.00	0.00	0	13.18	129	79	74	0	7	0	0
	JUNEAU	36	29	45	13	32	4	2.44	1.21	0.80	5.86	125	54.17	94	98	91	0	4	5	3
	KODIAK	28	17	32	13	22	-8	0.11	-1.70	0.07	7.63	117	82.69	111	72	53	0	7	3	0
	NOME	3	-13	16	-26	-5	-12	0.20	0.01	0.20	0.56	67	17.32	106	87	79	0	7	1	0
AZ	FLAGSTAFF	37	22	47	5	29	0	0.63	0.22	0.57	1.16	76	18.15	80	91	47	0	7	4	1
	PHOENIX	67	49	72	41	58	5	0.18	-0.03	0.05	0.28	38	6.93	85	59	34	0	0	4	0
	TUCSON	64	41	71	30	52	1	0.05	-0.20	0.05	0.14	17	10.07	84	57	32	0	1	1	0
	YUMA	69	48	74	37	58	2	0.00	-0.11	0.00	0.00	0	3.56	123	56	38	0	0	0	0
AR	FORT SMITH	58	34	66	25	46	7	0.10	-0.52	0.10	1.29	43	27.70	64	84	53	0	4	1	0
	LITTLE ROCK	58	33	66	24	45	4	0.17	-0.75	0.17	1.94	47	37.50	74	90	43	0	4	1	0
CA	BAKERSFIELD	61	45	67	34	53	7	1.07	0.89	1.01	1.28	217	5.43	86	82	64	0	0	4	1
	FRESNO	54	42	59	30	48	4	1.42	1.09	0.99	2.67	250	8.89	81	93	79	0	1	4	1
	LOS ANGELES	63	50	75	44	57	0	0.92	0.48	0.78	1.20	83	10.77	84	87	60	0	0	3	1
	REDDING	53	37	60	26	45	0	1.85	0.72	1.29	7.35	188	32.42	99	96	79	0	2	3	2
	SACRAMENTO	55	41	58	29	48	3	0.83	0.26	0.46	3.05	151	13.48	77	98	64	0	2	3	0
	SAN DIEGO	64	51	74	46	58	1	0.49	0.16	0.47	0.62	60	9.21	88	87	60	0	0	2	0
	SAN FRANCISCO	56	47	64	38	52	3	0.72	0.03	0.43	3.75	157	16.08	82	92	81	0	0	3	0
	STOCKTON	55	41	59	28	48	4	0.51	0.09	0.41	2.53	170	8.94	66	95	84	0	1	4	0
CO	ALAMOSA	36	4	47	-1	20	5	0.02	-0.04	0.01	0.05	22	6.25	87	88	65	0	7	2	0
	CO SPRINGS	49	20	57	14	34	6	0.00	-0.09	0.00	0.04	14	12.38	72	64	22	0	7	0	0
	DENVER INTL	49	21	57	18	35	6	0.00	-0.06	0.00	0.12	55	13.92	103	73	32	0	7	0	0
	GRAND JUNCTION	42	24	48	17	33	6	0.03	-0.08	0.03	0.51	134	6.55	74	80	59	0	7	1	0
	PUEBLO	54	15	61	6	35	6	0.00	-0.08	0.00	0.05	17	11.57	94	54	30	0	7	0	0
CT	BRIDGEPORT	47	32	54	21	39	6	0.61	-0.17	0.60	3.24	110	46.71	107	80	62	0	3	2	1
	HARTFORD	48	30	56	17	39	11	0.84	0.05	0.84	3.32	108	54.57	120	78	59	0	5	1	1
DC	WASHINGTON	51	34	62	25	43	6	0.60	-0.09	0.44	4.35	169	59.45	153	74	38	0	2	2	0
DE	WILMINGTON	48	31	59	25	40	6	1.24	0.48	1.24	4.77	164	55.34	131	82	44	0	5	1	1
FL	DAYTONA BEACH	68	47	78	35	57	-3	0.02	-0.59	0.01	1.54	68	57.32	117	98	57	0	0	2	0
	JACKSONVILLE	63	33	75	24	48	-6	0.08	-0.53	0.08	1.20	55	44.68	86	94	51	0	4	1	0
	KEY WEST	71	61	77	54	66	-5	0.52	0.03	0.38	1.03	58	38.15	99	90	70	0	0	2	0
	MIAMI	74	57	81	47	66	-3	0.12	-0.32	0.11	1.27	67	69.81	120	94	65	0	0	2	0
	ORLANDO	71	47	78	37	59	-3	0.00	-0.50	0.00	1.58	80	50.88	106	92	63	0	0	0	0
	PENSACOLA	60	37	72	32	49	-4	0.42	-0.49	0.42	3.15	95	63.66	100	89	56	0	3	1	0
	TALLAHASSEE	61	28	71	21	45	-7	0.36	-0.62	0.35	1.77	52	65.18	104	93	46	0	5	2	0
	TAMPA	70	47	73	36	59	-3	0.00	-0.49	0.00	1.30	66	52.12	117	88	46	0	0	0	0
	WEST PALM	75	56	81	44	65	-2	2.22	1.63	2.15	4.33	159	65.94	108	89	62	0	0	2	1
GA	ATHENS	56	26	65	20	41	-2	0.32	-0.53	0.30	2.25	72	50.38	107	82	42	0	7	2	0
	ATLANTA	56	31	65	27	44	0	0.46	-0.38	0.45	2.49	77	52.82	106	76	42	0	6	2	0
	AUGUSTA	59	24	69	17	42	-3	0.01	-0.78	0.01	2.00	77	53.04	120	95	36	0	6	1	0
	COLUMBUS	60	30	70	25	45	-3	0.66	-0.31	0.65	2.78	74	56.47	118	90	33	0	5	2	1
	MACON	60	26	71	20	43	-3	0.27	-0.65	0.26	4.79	145	58.07	131	90	32	0	6	2	0
	SAVANNAH	62	31	71	24	46	-4	0.01	-0.70	0.01	1.47	64	46.33	94	96	45	0	5	1	0
HI	HILO	80	65	83	62	73	1	0.25	-1.73	0.19	7.63	82	88.75	71	85	73	0	0	4	0
	HONOLULU	82	69	84	63	75	1	0.00	-0.66	0.00	2.83	116	10.74	60	79	69	0	0	0	0
	KAHULUI	82	64	84	60	73	0	0.00	-0.75	0.00	2.09	82	12.56	69	85	76	0	0	0	0
	LIHUE	79	66	80	62	73	0	0.01	-1.06	0.01	3.75	92	36.48	94	87	78	0	0	1	0
ID	BOISE	41	28	46	18	35	6	0.42	0.14	0.31	1.16	101	9.95	83	91	71	0	6	3	0
	LEWISTON	43	33	49	25	38	5	0.20	-0.02	0.13	1.69	194	13.98	111	92	80	0	2	2	0
	POCATELLO	33	20	44	10	27	3	0.67	0.44	0.28	1.14	128	7.90	64	94	81	0	7	4	0
IL	CHICAGO/O'HARE	41	24	49	16	32	7	0.01	-0.46	0.01	1.66	78	31.77	88	80	55	0	6	1	0
	MOLINE	43	26	55	15	35	11	0.02	-0.42	0.02	2.72	142	31.79	84	78	54	0	5	1	0
	PEORIA	43	27	53	17	35	10	0.31	-0.13	0.31	1.62	77	31.23	87	85	57	0	5	1	0
	ROCKFORD	41	22	51	12	32	10	0.01	-0.38	0.01	3.06	170	25.57	70	83	61	0	6	1	0
	SPRINGFIELD	45	29	54	18	37	9	0.72	0.22	0.56	1.42	64	35.12	100	80	59	0	5	4	1
IN	EVANSVILLE	48	29	56	22	39	6	0.21	-0.48	0.20	0.50	16	39.76	91	83	58	0	5	2	0
	FORT WAYNE	39	25	45	20	32	6	1.01	0.45	0.81	2.05	85	43.91	121	90	69	0	6	2	1
	INDIANAPOLIS	44	26	50	18	35	6	1.67	1.07	1.39	2.97	113	53.03	131	86	56	0	6	3	1
	SOUTH BEND	40	26	46	18	33	7	0.31	-0.32	0.29	1.09	40	34.12	87	85	66	0	6	2	0
IA	BURLINGTON	42	28	55	16	35	10	0.27	-0.12	0.26	4.06	221	33.86	90	89	57	0	5	2	0
	CEDAR RAPIDS	41	23	50	12	32	11	0.71	0.45	0.71	1.79	140	31.23	94	90	59	0	6	1	1
	DES MOINES	45	28	58	14	36	13	0.10	-0.15	0.08	0.93	82	33.66	97	86	64	0	4	2	0
	DUBUQUE	38	23	46	15	31	11	0.18	-0.13	0.18	1.64	112	28.81	82	80	65	0	6	1	0
	SIOUX CITY	43	24	53	13	34	14	0.00	-0.11	0.00	0.23	44	26.04	101	89	71	0	7	0	0
	WATERLOO	41	24	50	10	32	13	0.02	-0.17	0.02	0.46	48	27.72	84	78	67	0	6	1	0
KS	CONCORDIA	49	29	57	19	39	11	0.00	-0.17	0.00	0.27	39	24.06	85	81	60	0	5	0	0
	DODGE CITY	56	28	68	20	42	10	0.00	-0.17	0.00	0.27	42	23.71	107	81	35	0	6	0	0
	GOODLAND	51	19	65	14	35	6	0.00	-0.08	0.00	0.17	61	13.40	68	80	39	0	7	0	0
	TOPEKA	50	32	63	18	41	12	0.09	-0.17	0.09	2.22	182	29.35	83	81	58	0	3	1	0

Based on 1971-2000 normals

*** Not Available

Weather Data for the Week Ending December 27, 2003

STATES AND STATIONS		TEMPERATURE °F						PRECIPITATION							RELATIVE HUMIDITY, PERCENT		NUMBER OF DAYS			
																	TEMP. °F		PRECIP	
		AVERAGE MAXIMUM	AVERAGE MINIMUM	EXTREME HIGH	EXTREME LOW	AVERAGE	DEPARTURE FROM NORMAL	WEEKLY TOTAL, IN.	DEPARTURE FROM NORMAL	GREATEST IN 24-HOUR, IN.	TOTAL, IN., SINCE Dec 1	PCT. NORMAL SINCE Dec 1	TOTAL, IN., SINCE Jan 1	PCT. NORMAL SINCE Jan 1	AVERAGE MAXIMUM	AVERAGE MINIMUM	90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE
	WICHITA	53	34	83	24	43	11	0.05	-0.23	0.05	0.89	77	32.61	108	84	62	0	3	1	0
KY	JACKSON	45	27	56	18	36	0	0.38	-0.51	0.32	3.26	87	54.68	112	88	46	0	5	3	0
	LEXINGTON	44	26	52	19	35	1	0.66	-0.21	0.66	3.28	95	52.93	117	81	60	0	6	1	1
	LOUISVILLE	49	31	56	24	40	5	0.89	0.12	0.89	2.39	75	49.58	113	76	45	0	5	1	1
	PADUCAH	51	28	61	18	40	5	0.01	-0.85	0.01	0.71	18	46.56	96	89	45	0	5	1	0
LA	BATON ROUGE	65	39	74	29	52	1	0.52	-0.67	0.52	0.88	20	41.53	67	96	45	0	1	1	1
	LAKE CHARLES	66	43	73	34	55	3	0.37	-0.67	0.21	2.00	51	42.52	75	96	60	0	0	2	0
	NEW ORLEANS	64	43	70	37	54	0	0.32	-0.73	0.32	1.07	24	65.44	103	84	60	0	0	1	0
	SHREVEPORT	65	38	74	30	52	5	0.25	-0.74	0.17	1.99	51	35.05	69	87	46	0	2	2	0
ME	CARIBOU	34	20	48	1	27	14	0.61	-0.11	0.49	2.92	107	39.54	107	93	81	0	5	4	0
	PORTLAND	42	25	52	10	34	9	0.50	-0.42	0.32	3.72	102	37.65	83	89	59	0	6	2	0
MD	BALTIMORE	50	29	62	24	40	5	0.68	-0.08	0.48	4.61	162	62.61	151	76	45	0	5	2	0
MA	BOSTON	49	34	58	22	41	9	0.42	-0.41	0.36	3.79	118	43.23	103	74	54	0	2	2	0
	WORCESTER	45	30	55	16	38	11	0.86	0.01	0.84	4.04	125	48.89	101	81	50	0	5	2	1
MI	ALPENA	37	21	43	10	29	7	0.16	-0.23	0.09	1.40	92	24.55	87	95	68	0	7	2	0
	GRAND RAPIDS	39	26	47	16	33	8	0.08	-0.43	0.05	0.80	34	32.88	89	90	66	0	6	3	0
	HOUGHTON LAKE	36	22	43	13	29	8	0.03	-0.33	0.02	1.18	80	24.67	88	93	73	0	7	2	0
	LANSING	38	25	45	10	32	7	0.40	-0.01	0.29	1.03	54	25.02	80	87	72	0	6	3	0
	MUSKEGON	41	28	47	18	34	7	0.02	-0.51	0.02	1.51	66	27.98	86	87	71	0	5	1	0
	TRAVERSE CITY	39	23	46	14	31	7	0.08	-0.52	0.04	1.47	65	27.25	82	94	62	0	7	3	0
MN	DULUTH	35	15	40	-4	25	14	0.10	-0.04	0.05	0.10	13	24.66	80	88	70	0	6	2	0
	INT'L FALLS	33	13	39	-5	23	18	0.03	-0.08	0.03	0.24	43	16.94	71	92	70	0	6	1	0
	MINNEAPOLIS	35	22	43	10	29	13	0.01	-0.18	0.01	0.61	73	22.75	78	82	70	0	6	1	0
	ROCHESTER	36	21	45	10	28	14	0.02	-0.15	0.02	0.43	50	22.82	73	85	73	0	6	1	0
	ST. CLOUD	36	18	43	4	27	16	0.00	-0.14	0.00	0.10	18	24.62	91	95	70	0	6	0	0
MS	JACKSON	59	31	69	24	45	-1	0.57	-0.62	0.57	1.78	39	57.32	104	92	44	0	5	1	1
	MERIDIAN	57	29	67	22	43	-4	0.53	-0.64	0.53	1.85	41	69.58	120	97	48	0	5	1	1
	TUPELO	54	29	62	22	41	-1	0.57	-0.78	0.57	2.51	47	68.07	124	89	56	0	5	1	1
MO	COLUMBIA	49	30	63	19	39	9	1.53	1.09	1.29	3.31	152	39.51	99	90	57	0	4	2	1
	KANSAS CITY	48	32	59	17	40	11	0.18	-0.12	0.09	1.96	138	27.74	73	88	67	0	3	2	0
	SAINT LOUIS	50	31	62	22	40	8	1.00	0.47	0.76	2.12	85	45.83	119	84	60	0	4	2	1
	SPRINGFIELD	51	32	61	20	41	7	1.08	0.54	0.68	3.71	131	42.23	95	84	60	0	3	3	1
MT	BILLINGS	43	29	52	25	36	11	0.49	0.34	0.42	0.75	147	9.75	67	71	48	0	7	2	0
	BUTTE	29	8	40	-4	19	2	0.00	-0.11	0.00	0.32	74	9.74	77	92	62	0	7	0	0
	GLASGOW	34	17	39	10	26	13	0.28	0.20	0.19	0.50	192	10.43	94	90	81	0	7	2	0
	GREAT FALLS	44	23	53	15	33	10	0.02	-0.14	0.02	0.04	8	10.16	69	77	39	0	6	1	0
	HAVRE	38	15	48	9	27	10	0.16	0.05	0.10	0.22	56	9.79	86	88	76	0	7	2	0
	KALISPELL	30	17	35	7	24	2	0.11	-0.24	0.07	1.10	79	12.24	72	95	90	0	7	3	0
	MISSOULA	31	21	34	12	26	4	0.16	-0.09	0.13	0.65	68	13.83	102	93	88	0	7	2	0
NE	GRAND ISLAND	49	24	58	16	37	13	0.00	-0.11	0.00	0.02	4	16.47	64	80	53	0	6	0	0
	LINCOLN	48	26	56	12	37	13	0.00	-0.14	0.00	0.15	21	25.72	91	81	55	0	4	0	0
	NORFOLK	47	25	56	11	36	14	0.00	-0.10	0.00	0.11	20	22.12	83	83	59	0	6	0	0
	NORTH PLATTE	46	18	53	11	32	8	0.00	-0.08	0.00	0.00	0	18.33	94	94	49	0	7	0	0
	OMAHA	45	28	58	16	36	13	0.03	-0.11	0.03	0.85	109	23.36	78	86	64	0	5	1	0
	SCOTTSBLUFF	43	23	48	17	33	8	0.11	0.00	0.08	0.50	109	9.85	61	96	87	0	7	3	0
	VALENTINE	47	24	49	16	35	13	0.00	-0.06	0.00	0.23	88	15.45	79	90	57	0	7	0	0
NV	ELY	35	16	41	-12	26	1	0.96	0.85	0.71	1.17	325	8.57	87	88	69	0	7	3	1
	LAS VEGAS	57	43	64	35	50	4	0.34	0.26	0.31	0.71	245	6.63	151	62	44	0	0	3	0
	RENO	43	29	48	15	36	3	0.15	-0.04	0.15	1.24	168	4.60	63	82	67	0	5	1	0
	WINNEMUCCA	38	25	43	11	32	3	0.48	0.31	0.35	1.21	189	7.70	94	87	75	0	6	4	0
NH	CONCORD	43	22	54	5	33	10	0.35	-0.28	0.30	4.13	163	43.32	117	87	58	0	5	2	0
NJ	NEWARK	49	34	56	24	41	7	1.37	0.59	1.37	5.28	174	56.58	124	73	48	0	4	1	1
NM	ALBUQUERQUE	47	27	57	22	37	2	0.00	-0.11	0.00	0.11	31	6.37	68	76	39	0	7	0	0
NY	ALBANY	42	28	53	9	35	9	0.89	0.34	0.89	3.96	173	44.83	119	81	53	0	5	1	1
	BINGHAMTON	40	28	52	15	34	9	0.38	-0.23	0.36	2.71	103	43.47	114	86	69	0	5	2	0
	BUFFALO	42	32	54	27	37	9	1.48	0.69	1.13	3.14	95	36.48	91	89	66	0	4	3	1
	ROCHESTER	44	31	55	23	38	11	0.25	-0.31	0.21	2.27	97	31.52	94	81	59	0	4	3	0
	SYRACUSE	43	30	54	18	36	10	0.37	-0.24	0.33	2.45	90	36.97	93	86	56	0	4	4	0
NC	ASHEVILLE	51	22	61	14	37	0	0.23	-0.51	0.20	2.54	89	59.41	128	81	45	0	7	2	0
	CHARLOTTE	56	24	65	17	40	-3	0.00	-0.74	0.00	2.37	89	62.63	146	81	33	0	7	0	0
	GREENSBORO	53	27	62	19	40	1	0.06	-0.63	0.06	2.27	88	60.78	142	75	32	0	6	1	0
	HATTERAS	54	43	67	34	49	1	1.58	0.48	1.57	4.79	126	73.79	129	79	53	0	0	2	1
	RALEIGH	56	28	66	19	42	1	0.16	-0.55	0.15	3.51	138	48.94	115	78	37	0	5	2	0
	WILMINGTON	58	31	68	23	45	-2	0.61	-0.25	0.34	4.95	155	63.78	113	99	44	0	5	2	0
ND	BISMARCK	41	20	47	12	31	18	0.16	0.08	0.16	0.23	70	13.53	81	84	69	0	7	1	0
	DICKINSON	40	20	46	18	30	14	0.10	0.04	0.10	0.12	48	13.10	81	92	53	0	7	1	0
	FARGO	34	22	40	13	28	18	0.10	-0.03	0.08	0.27	61	17.59	84	90	78	0	6	2	0
	GRAND FORKS	34	18	41	6	26	18	0.11	0.00	0.11	0.28	65	17.39	89	94	79	0	7	1	0
	JAMESTOWN	36	18	41	6	27	18	0.09	0.00	0.09	0.43	130	14.39	78	96	77	0	7	1	0
	WILLISTON	32	13	38	7	22	11	0.26	0.15	0.26	0.33	75	14.39	103	89	84	0	7	1	0
OH	AKRON-CANTON	38	26	48	19	32	4	0.82	0.21	0.52	2.64	102	50.82	133	87	72	0	6	4	1
	CINCINNATI	44	26	51	18	35	3	0.42	-0.28	0.42	1.60	57	44.06	105	81	61	0	5	1	0
	CLEVELAND	40	29	50	23	35	6	1.37	0.75	0.64	3.40	124	41.90	109	91	68	0	5	4	1
	COLUMBUS	42	25	51	20	34	3	0.47	-0.12	0.41	2.24	88	48.55	127	84	62	0	6	2	0
	DAYTON	42	25	49	20	34	5	0.58	-0.06	0.55	1.76	66	42.94	110	86	56	0	6	3	1
	MANSFIELD	38	26	47	18	32	5	0.78	0.13	0.44	2.08	73	40.52	95	94	63	0	6	5	0

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Weather Data for the Week Ending December 27, 2003

STATES AND STATIONS		TEMPERATURE °F						PRECIPITATION							RELATIVE HUMIDITY, PERCENT		NUMBER OF DAYS TEMP. °F		NUMBER OF DAYS PRECIP	
		AVERAGE MAXIMUM	AVERAGE MINIMUM	EXTREME HIGH	EXTREME LOW	AVERAGE	DEPARTURE FROM NORMAL	WEEKLY TOTAL, IN.	DEPARTURE FROM NORMAL	GREATEST IN 24-HOUR, IN.	TOTAL IN. SINCE Dec 1	PCT. NORMAL SINCE Dec 1	TOTAL IN. SINCE Jan 1	PCT. NORMAL SINCE Jan 1	AVERAGE MAXIMUM	AVERAGE MINIMUM	90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE
	TOLEDO	39	25	47	15	32	5	1.18	0.66	0.70	2.58	112	36.74	112	85	73	0	5	4	1
	YOUNGSTOWN	39	27	49	18	33	5	0.73	0.14	0.46	2.21	85	45.57	121	86	68	0	5	5	0
OK	OKLAHOMA CITY	59	38	66	28	49	11	0.31	-0.10	0.19	1.16	73	21.33	60	85	46	0	2	2	0
	TULSA	57	39	65	25	48	10	1.54	1.10	0.84	2.19	103	41.17	98	76	59	0	2	2	2
OR	ASTORIA	49	38	53	32	44	2	2.78	0.58	1.15	9.08	100	67.56	103	97	80	0	1	7	2
	BURNS	35	21	43	13	28	4	0.26	-0.02	0.15	1.33	125	9.51	92	96	91	0	7	3	0
	EUGENE	47	36	58	29	41	2	1.79	0.06	0.91	8.25	114	38.88	78	95	91	0	1	7	2
	MEDFORD	48	36	59	27	42	5	0.60	0.01	0.39	3.96	157	19.19	107	93	74	0	2	4	0
	PENDLETON	43	32	51	29	37	4	0.24	-0.06	0.18	1.77	143	11.69	93	92	82	0	4	4	0
	PORTLAND	48	39	51	33	43	4	2.08	0.88	0.74	7.07	142	37.69	104	93	79	0	0	6	2
	SALEM	46	35	51	31	40	0	2.11	0.76	1.04	8.57	151	39.93	102	97	89	0	4	6	2
PA	ALLENTOWN	47	26	57	18	36	6	0.80	0.07	0.80	4.07	140	56.25	126	83	59	0	6	1	1
	ERIE	40	30	51	23	35	5	0.91	0.16	0.56	1.72	52	39.91	94	81	70	0	5	4	1
	MIDDLETOWN	47	29	58	23	38	7	0.26	-0.39	0.26	3.29	117	54.64	136	82	46	0	6	1	0
	PHILADELPHIA	48	32	60	24	40	5	1.74	1.01	1.74	5.25	187	47.79	115	71	52	0	3	1	1
	PITTSBURGH	42	28	57	13	35	5	0.25	-0.34	0.18	1.90	77	40.36	108	91	54	0	5	3	0
	WILKES-BARRE	44	29	56	21	36	7	0.47	-0.03	0.42	3.77	171	49.80	134	83	57	0	5	2	0
	WILLIAMSPORT	43	27	50	19	35	6	0.59	0.01	0.59	3.79	148	52.38	127	84	59	0	5	1	1
RI	PROVIDENCE	50	33	56	21	41	9	0.51	-0.40	0.38	5.51	155	49.39	108	75	55	0	3	2	0
SC	BEAUFORT	***	***	***	***	***	***	***	***	***	2.63	112	48.72	99	***	***	***	***	***	***
	CHARLESTON	61	30	70	24	45	-4	0.01	-0.77	0.01	1.84	68	51.01	100	92	41	0	5	1	0
	COLUMBIA	58	26	67	18	42	-3	0.02	-0.81	0.02	2.13	76	55.06	115	85	35	0	6	1	0
	GREENVILLE	55	27	64	20	41	-1	0.02	-0.87	0.02	2.58	79	63.21	127	84	36	0	6	1	0
SD	ABERDEEN	39	21	47	9	30	17	0.03	-0.05	0.03	0.18	69	21.14	105	88	73	0	7	1	0
	HURON	40	23	46	13	32	16	0.02	-0.05	0.02	0.17	61	16.72	80	93	68	0	6	1	0
	RAPID CITY	44	26	48	19	35	12	0.20	0.12	0.13	0.25	89	11.11	67	87	51	0	6	3	0
	SIOUX FALLS	39	24	48	12	32	16	0.00	-0.08	0.00	0.33	80	21.32	87	90	71	0	5	0	0
TN	BRISTOL	47	20	60	12	33	-2	0.57	-0.17	0.40	2.96	101	65.45	160	93	47	0	7	5	0
	CHATTANOOGA	53	26	61	20	39	-2	0.57	-0.47	0.57	3.72	90	62.59	116	87	44	0	7	1	1
	KNOXVILLE	51	25	63	18	38	-1	0.42	-0.57	0.42	2.53	66	57.86	122	89	43	0	7	1	0
	MEMPHIS	56	34	67	25	45	4	0.79	-0.34	0.78	2.23	44	51.22	95	75	43	0	3	2	1
	NASHVILLE	51	29	62	22	40	1	0.67	-0.28	0.67	2.44	62	55.93	118	81	43	0	5	1	1
TX	ABILENE	67	44	74	35	56	12	0.00	-0.30	0.00	0.01	1	19.10	81	68	43	0	0	0	0
	AMARILLO	62	29	77	22	45	9	0.06	-0.09	0.06	0.09	20	13.43	69	69	23	0	5	1	0
	AUSTIN	70	42	77	23	56	5	0.01	-0.53	0.01	0.39	19	20.56	62	80	55	0	2	1	0
	BEAUMONT	66	45	74	33	55	2	0.13	-1.08	0.12	2.29	51	58.05	98	99	57	0	0	2	0
	BROWNSVILLE	75	56	79	39	66	6	0.04	-0.18	0.04	0.17	18	33.69	123	90	63	0	0	1	0
	CORPUS CHRISTI	74	52	80	33	63	6	0.00	-0.39	0.00	0.48	33	28.54	89	84	57	0	0	0	0
	DEL RIO	70	44	76	30	57	6	0.00	-0.14	0.00	0.04	7	24.02	133	83	58	0	1	0	0
	EL PASO	60	35	72	27	48	4	0.00	-0.16	0.00	0.00	0	4.21	45	57	24	0	3	0	0
	FORT WORTH	67	44	77	32	55	10	0.13	-0.45	0.13	0.84	38	24.48	71	82	45	0	1	1	0
	GALVESTON	66	54	72	43	60	3	0.07	-0.71	0.03	4.95	166	38.20	88	96	67	0	0	3	0
	HOUSTON	68	47	76	34	58	6	0.53	-0.27	0.53	2.45	78	46.73	99	94	61	0	0	1	1
	LUBBOCK	63	31	77	22	47	9	0.00	-0.13	0.00	0.00	0	8.80	47	62	29	0	4	0	0
	MIDLAND	64	36	72	30	50	6	0.00	-0.14	0.00	0.00	0	10.63	72	69	30	0	2	0	0
	SAN ANGELO	67	41	73	26	54	9	0.00	-0.19	0.00	0.08	10	19.27	93	68	41	0	2	0	0
	SAN ANTONIO	70	48	77	33	59	8	0.01	-0.40	0.01	0.13	8	28.49	87	81	49	0	0	1	0
	VICTORIA	71	47	78	33	59	5	0.02	-0.53	0.01	1.43	67	38.43	97	95	60	0	0	2	0
	WACO	67	44	76	30	56	9	0.00	-0.58	0.00	0.46	19	28.10	85	84	57	0	1	0	0
	WICHITA FALLS	68	40	74	27	54	13	0.00	-0.37	0.00	0.01	1	19.01	67	65	44	0	1	0	0
UT	SALT LAKE CITY	37	23	49	13	30	1	2.71	2.45	0.99	3.58	358	15.78	97	95	69	0	7	5	3
VT	BURLINGTON	39	22	50	-1	31	9	0.99	0.55	0.72	4.23	223	35.62	100	91	76	0	6	3	1
VA	LYNCHBURG	53	24	61	19	38	2	0.15	-0.57	0.15	3.26	119	59.08	138	73	38	0	6	1	0
	NORFOLK	55	35	69	29	45	3	1.31	0.59	1.17	5.75	228	61.36	136	75	42	0	3	2	1
	RICHMOND	54	30	64	20	42	4	0.26	-0.47	0.13	3.45	132	61.29	141	76	44	0	4	2	0
	ROANOKE	52	29	62	21	40	3	0.13	-0.48	0.12	2.58	106	54.15	129	69	39	0	6	2	0
	WASH/DULLES	51	30	62	20	40	6	0.37	-0.29	0.32	4.38	167	64.53	156	72	46	0	5	2	0
WA	OLYMPIA	43	35	50	31	39	2	1.90	0.23	1.10	5.79	84	52.55	106	97	92	0	2	6	1
	QUILLAYUTE	48	33	56	31	41	1	3.07	-0.05	0.90	12.13	96	93.50	94	98	89	0	4	6	3
	SEATTLE-TACOMA	47	38	53	32	43	3	0.92	-0.25	0.42	3.86	79	41.47	114	92	74	0	1	5	0
	SPOKANE	35	28	40	22	32	6	0.15	-0.30	0.12	2.37	122	14.68	90	97	86	0	7	2	0
	YAKIMA	35	25	39	15	30	2	0.35	0.05	0.28	1.94	166	7.03	87	97	91	0	6	2	0
WV	BECKLEY	43	23	58	13	33	0	0.37	-0.32	0.33	2.16	82	51.64	125	81	55	0	6	2	0
	CHARLESTON	46	25	62	14	36	0	0.38	-0.31	0.24	2.56	89	60.73	139	92	46	0	6	3	0
	ELKINS	44	17	62	3	30	-1	0.51	-0.23	0.49	2.48	84	50.92	112	94	45	0	7	2	0
	HUNTINGTON	46	27	59	20	36	1	0.44	-0.30	0.35	2.52	87	57.02	136	87	49	0	5	3	0
WI	EAU CLAIRE	41	14	56	2	28	13	0.12	-0.07	0.12	0.77	89	23.78	74	93	51	0	6	1	0
	GREEN BAY	37	21	46	14	29	10	1.39	1.14	0.99	2.35	196	12.45	112	89	64	0	7	2	1
	LA CROSSE	39	21	49	8	30	11	0.02	-0.19	0.02	0.48	46	22.73	71	90	62	0	6	1	0
	MADISON	39	20	50	12	30	10	0.15	-0.15	0.13	1.93	134	31.79	97	79	57	0	7	2	0
	MILWAUKEE	40	24	47	16	32	8	0.01	-0.42	0.01	1.68	87	21.97	64	74	57	0	6	1	0
WY	CASPER	37	24	50	10	30	7	0.22	0.11	0.21	0.39	81	13.12	102	80	62	0	7	2	0
	CHEYENNE	41	21	50	14	31	5	0.12	0.04	0.12	0.21	60	10.38	68	61	45	0	7	1	0
	LANDER	28	15	36	7	22	1	0.67	0.56	0.52	0.82	167	10.45	79	91	78	0	7	2	1
	SHERIDAN	39	22	45	16	31	9	0.34	0.19	0.28	0.69	128	12.72	87	83	69	0	7	2	0

Based on 1971-2000 normals

*** Not Available

NOTE: These data are preliminary and subject to change. In the past, precipitation totals from a number of stations have been incomplete.

National Agricultural Summary

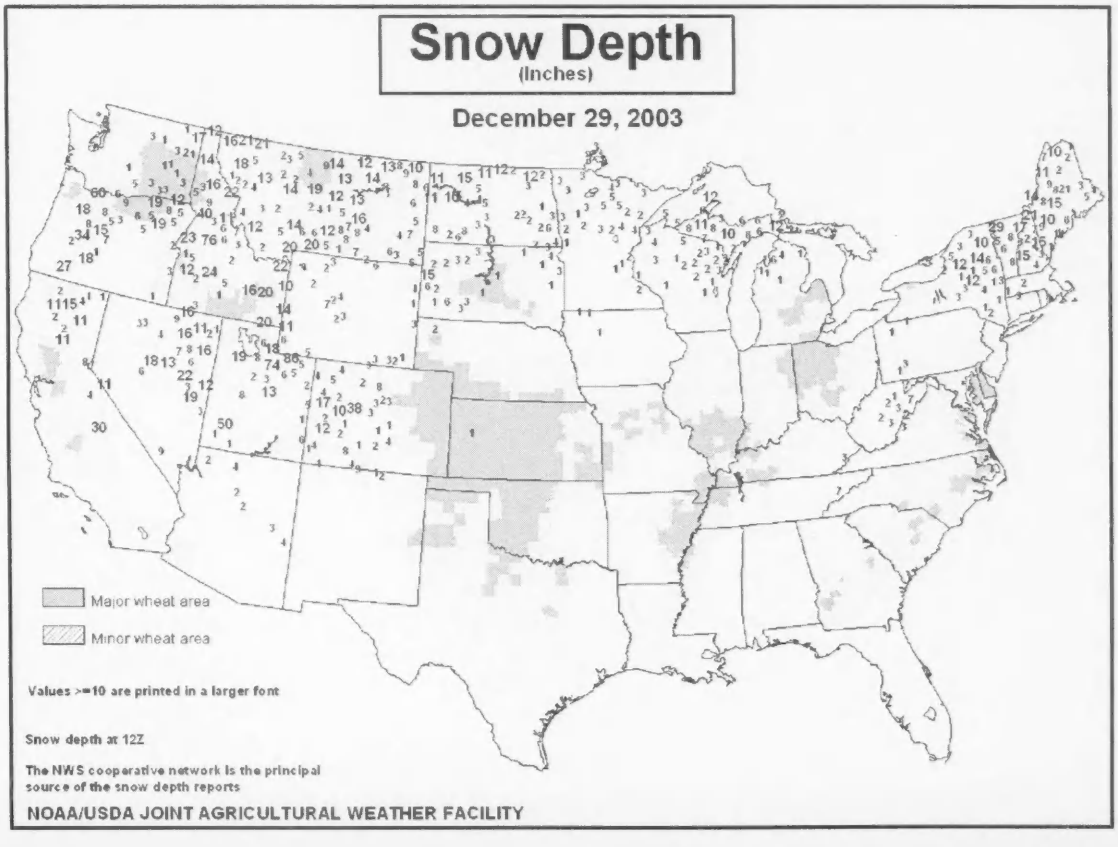
December 22 - 28, 2003

Weekly National Agricultural Summary provided by USDA/NASS

HIGHLIGHTS

Temperatures were above normal across most of the nation, especially in the Great Plains, western Corn Belt, and New England, where temperatures averaged 9 degrees Fahrenheit or more above normal. Only the Southeast had below-normal temperatures. A wide swath of light to moderate rainfall extended from the southeastern Great Plains to New England, encompassing the Mississippi Delta, the southern and eastern Corn Belt, the middle Atlantic Coast States, and parts of the Southeast, but missing the southern Atlantic Coast states. The western Corn Belt and northern and central Great Plains remained dry. Light to moderate precipitation fell across most of the Rocky Mountains, the Pacific Northwest, and California, with the heaviest rainfall along the Pacific Coast.

In California, rainfall slowed field preparation for next year's row crops and hampered orchard and vineyard work, while most vegetable crops progressed well and livestock conditions improved. Harvest of sugarcane, citrus crops, and vegetables was active in Florida. The Arizona cotton harvest was winding down and harvest of vegetables and citrus in the State was active. In Hawaii, bananas and papayas were in fair to good condition, but low yields were expected for some vegetable crops.


Snow Depth
(Inches)
December 29, 2003
Major wheat area
Minor wheat area
Values >=10 are printed in a larger font
Snow depth at 12Z
The NWS cooperative network is the principal source of the snow depth reports
NOAA/USDA JOINT AGRICULTURAL WEATHER FACILITY

International Weather and Crop Summary

December 21 - 27, 2003

International Weather and Crop Highlights and Summaries provided by USDA/WAOB

HIGHLIGHTS

EUROPE: Colder weather was accompanied by snow in northern Europe, while widespread rain and snow boosted moisture supplies for winter grains across southeastern Europe.

FSU-WESTERN: Overwintering conditions for dormant winter grains remained favorable.

MIDDLE EAST: Widespread precipitation favored winter crops that remained dormant across Turkey and western Iran.

NORTHWESTERN AFRICA: Rain favored winter grain germination across Tunisia and eastern Algeria, while dry weather prevailed elsewhere in the region.

SOUTH AFRICA: Showers increased moisture reserves for germination and establishment of corn and other summer crops.

SOUTHEAST ASIA: Showers continued to provide adequate moisture to rice and corn in Indonesia and the Philippines.

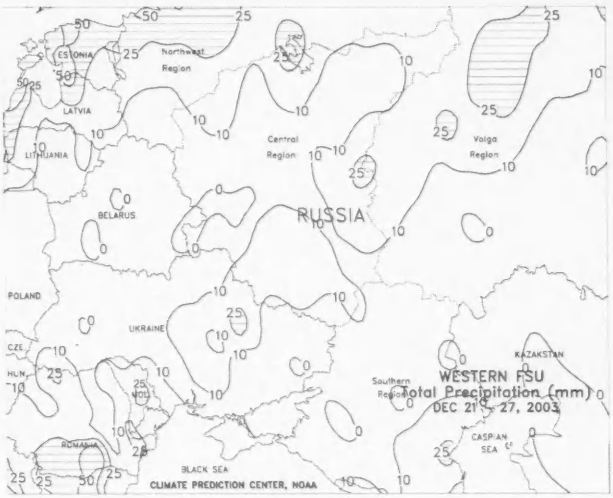
EASTERN ASIA: Conditions favored overwintering grains and oilseeds.

AUSTRALIA: Unseasonably warm weather counteracted the beneficial effects of rainfall for summer crops in eastern Australia.

SOUTH AMERICA: Widespread, beneficial showers covered most major growing areas of Argentina and Brazil.

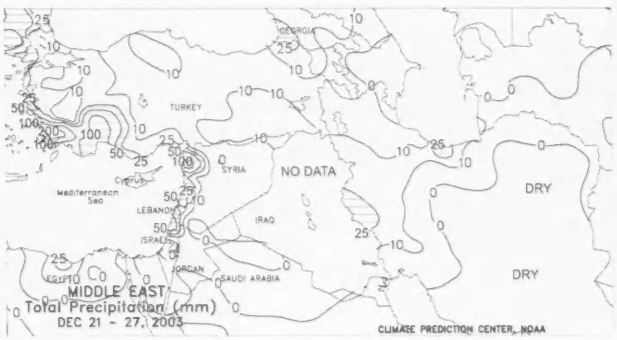
EUROPE

Across portions of northern Europe (Germany, the Czech Republic, and Poland), colder weather and snow (generally 2-10 mm of water equivalent, locally more) produced a protective snow cover for dormant winter grains and oilseeds. The snow cover protected winter crops from minimum temperatures ranging from -15 to -7 degrees C, above the -17 degrees C threshold for winterkill. In England, France, and northern Italy, scattered light rain and some snow (5-15 mm of water equivalent, locally more) increased soil moisture for semi-dormant to dormant winter crops. Dry weather prevailed across the Iberian Peninsula, but moisture supplies remained adequate for emerging to vegetative winter crops. A substantial storm brought widespread rain and snow (10-25 mm of water equivalent, locally more than 50 mm) to southeastern Europe, boosting moisture supplies for semi-dormant to dormant winter grains. Temperatures averaged about 1 to 2 degrees C above normal in northwestern Europe, while elsewhere in Europe, temperatures averaged about 0 to 2 degrees C below normal.



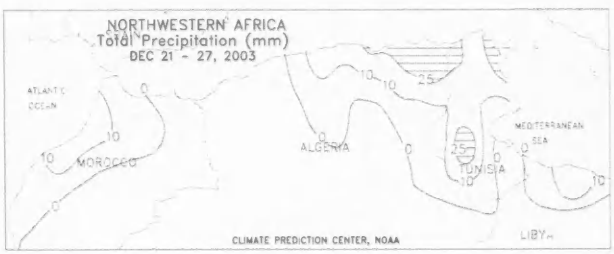
FSU-WESTERN

Above-normal temperatures continued to provide favorable overwintering conditions for dormant winter grains across most of the region. However, the mild weather pattern was briefly interrupted by a cold frontal passage during the middle of the week that brought snow and colder weather to many areas. The greatest amounts of snow (10-25 mm or more of liquid equivalent) fell in a narrow band that stretched from Moldova, northeastward through the central Ukraine in to the upper Volga Region. Elsewhere, precipitation amounts were mostly less than 5 mm. The coldest weather (minimum temperatures ranging from -20 to -15 degrees C) was observed December 25-26 across northern Ukraine and the Central and Volga Regions in Russia, occurring in areas protected by an adequate snow cover. At week's end, a deep snow pack covered winter grain areas in northern Russia, while a moderate to shallow snow cover existed in Moldova and central Ukraine. Snow cover was patchy or nonexistent in the Baltics, Belarus, northwest Ukraine, and the western portion of the Southern Region in Russia.



MIDDLE EAST

Cool weather (temperatures averaging 5 degrees C or lower) kept winter grains dormant across the main winter grain areas of central Turkey and western Iran. However, weekly temperatures averaged near normal, with lows staying above -10 degrees C in most of the typically colder locations. A storm brought widespread rain and snow (10-25 mm or more liquid equivalent) to western portions of central Turkey, boosting moisture supplies for next year's spring growth. Scattered, mostly light precipitation (10 mm or less) fell in the eastern Mediterranean, but moderate precipitation (10-25 mm or more) was moving into northern Iraq and western Iran by week's end.

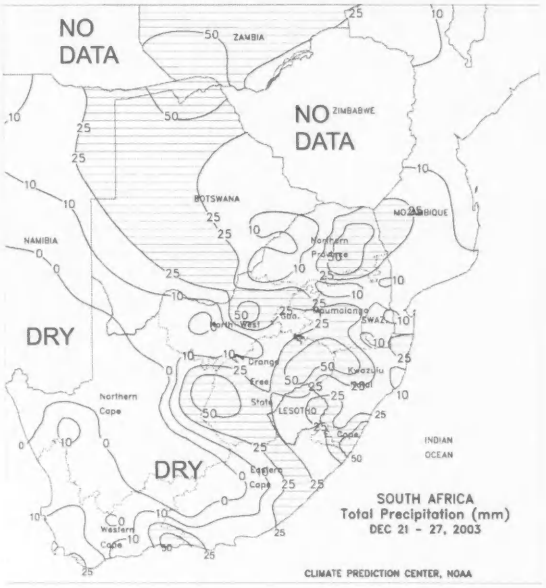


NORTHWESTERN AFRICA

Across Tunisia and eastern Algeria, light to moderate rain (10-50 mm), favored winter grain germination and early establishment. Mostly dry weather (less than 10 mm) prevailed across Morocco and western Algeria, where soil moisture levels remained adequate for early winter grain development. Weekly temperatures averaged 1 to 3 degrees C above normal in Morocco and western Algeria, and 1 to 3 degrees C below normal in eastern Algeria and Tunisia.

SOUTH AFRICA

Much-needed rain boosted topsoil moisture reserves for germination and establishment of corn and other summer crops in many primary production areas. The heaviest rain (15-50 mm or more) fell in northern and eastern sections of the corn belt (northern and eastern North West, much of Mpumalanga, and eastern Free State), sugarcane areas in and around KwaZulu Natal, and many non-commercial crop areas in Eastern Cape and Northern Province (Limpopo). The rain also brought temperatures down to more seasonable levels, ending a warm spell (in the lower to middle 30s degrees C) that lingered across the corn belt early in the week. However, dry pockets persisted in the western and central corn belt, including commercial white corn areas of North West and Free State, further stressing emerged summer crops and discouraging late plantings. A soaking rain is still needed throughout the region to begin recharging soil moisture reserves that have been depleted by this season's prevailing pattern of unfavorable warmth and dryness. In Western Cape, scattered showers (5-15 mm) and below-normal temperatures eased irrigation requirements of fruit and vegetables.

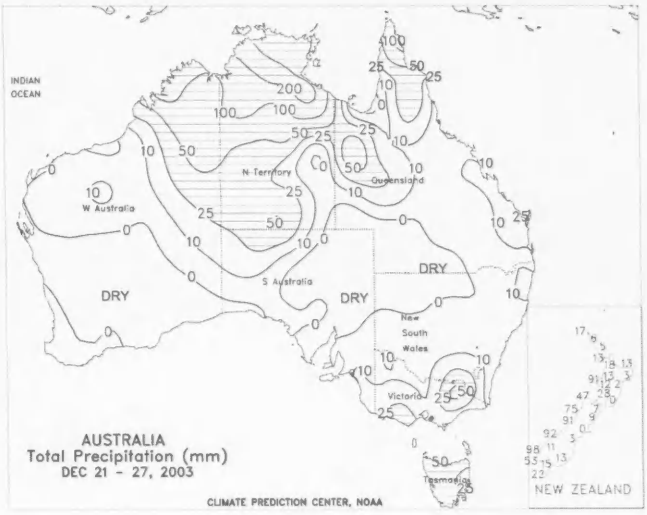


SOUTHEAST ASIA

Showers remained heavy (50-100 mm) in central and western Java, Indonesia, providing sufficient moisture for vegetative rice and corn. Showers (25-50 mm or more) continued to boost irrigation supplies for vegetative rice and corn in the southern Philippines. Seasonably cool, dry weather favored 10th month rice harvesting in Vietnam, but cool weather (lows of 10-15 degrees C) in the north slowed winter-spring rice development.

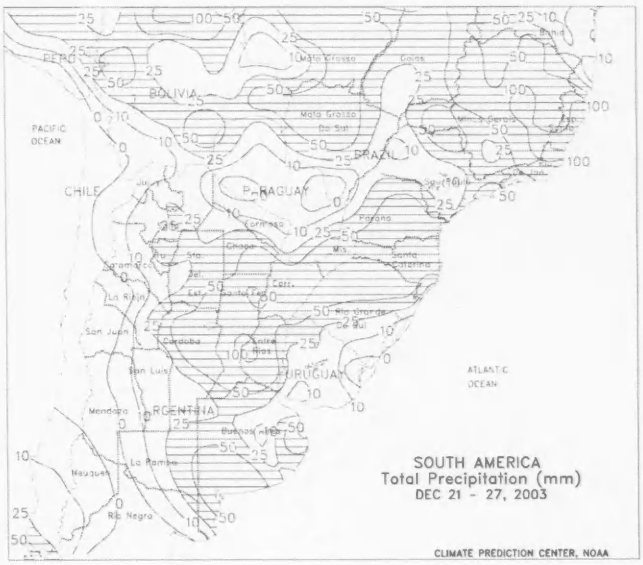
EASTERN ASIA

Dry weather dominated China and the Korean Peninsula. Above-normal temperatures (2-4 degrees C above normal) favored overwintering wheat and rapeseed in central and southern China, with lows of -10 degrees C or lower confined to northernmost crop areas of the North China Plain. Temperatures averaged above 5 degrees C in southern winter wheat areas (Sichuan to southern Jiangsu), but crops remained fully dormant elsewhere on the North China Plain. Cold weather (lows of -4 to 0 degrees C) lingered early in the week in China's southern interior (eastern Hunan to western Fujian), but temperatures stayed above freezing in primary coastal sugarcane areas. Elsewhere, dry, seasonably cold weather dominated the Korean Peninsula but rain and snow showers (5-25 mm or more liquid equivalent) continued in central and northern Japan.



AUSTRALIA

In Western Australia, unseasonably warm (temperatures 2-3 degrees C above normal), dry weather favored rapid winter grain harvesting, nearing completion throughout the state. In contrast, widespread showers (5-25 mm) early in the week in southern Victoria and southeastern New South Wales slowed late winter wheat and barley harvesting, while drier weather (generally less than 5 mm) elsewhere in Victoria, southern New South Wales, and South Australia allowed fieldwork to proceed with little delay. Temperatures in southern Australia were generally seasonable. Farther north, scattered, mostly light showers (2-7 mm, locally near 19 mm) in northern New South Wales and southern Queensland moistened topsoils for cotton and sorghum. Unseasonably warm weather led to higher-than-normal evaporation rates, however, counteracting the beneficial effects of the rainfall. Temperatures in eastern Australia averaged about 3 to 5 degrees C above normal, with maximum temperatures consistently in the middle to upper 30s degrees C.



SOUTH AMERICA

Beneficial rain (25-100 mm or more) covered most production areas of Argentina and Brazil. In Argentina, the improving conditions in western and southern growing areas likely encouraged late planting of summer grains and oilseeds in Cordoba and La Pampa. The return of rain to southern and western Buenos Aires boosted moisture reserves for immature winter wheat, but shower activity hindered harvesting elsewhere. In the far north, showers tapered off over Formosa, but moderate to heavy rain (25-50 mm or more) continued over most other cotton areas, including Chaco. According to the Buenos Aires Cereals Exchange, corn, sunflowers, and soybeans were 84, 98, and 88 percent planted, respectively, as of December 27, and winter wheat was 61 percent harvested. In Brazil, widespread rain maintained generally favorable moisture levels for soybeans in most southern (Parana, Santa Catarina, and Rio Grande do Sul) and western (Mato Grosso do Sul to Amazonas) growing areas. Scattered showers (10-50 mm or more) returned to previously dry locations in the east, boosting topsoil moisture and helping to bring temperatures down to more seasonable levels (highs in the upper 20s and lower 30s degrees C). However, dry pockets persisted over Sao Paulo and southern Goias, limiting moisture for coffee, soybeans, and citrus.

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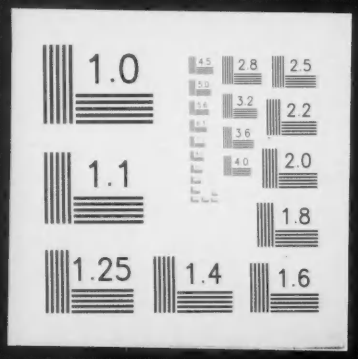
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